

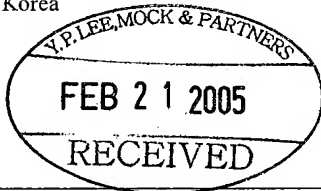
PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **17 FEBRUARY 2005 (17.02.2005)**

Applicant's or agent's file reference
NO-23449-PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/002866

International filing date (day/month/year)

06 NOVEMBER 2004 (06.11.2004)

Priority date(day/month/year)

06 NOVEMBER 2003 (06.11.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 B82B 3/00

Applicant

NANOHYBRID CO., LTD. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/002866

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-5, 7	YES
	Claims	6	NO
Inventive step (IS)	Claims	1-5, 7	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-7	YES
	Claims		NO

2. Citations and explanations :

Reference is made to the following document:

D1 = US 6,036,774 A

1. Claims 1-5 relate to a nanorod array or a composition method of ZnO nanowall array. Claim 6 relates to ZnO nanorod array manufactured by the method of claim 1. Claim 7 relates to ZnO nanowall array manufactured by the method of claim 1.

2. D1 relates to metal oxide(ZnO) nanorods, composite materials containing metal oxide nanorods, and methods of preparing metal oxide nanorods by controlled vapor-solid growth processes using a metal vapor source. The metal oxide nanorods have diameters between 1 and 200 nm and aspect ratios between 5 and 2000.

3. Comparing claims 1,2 and 7 and D1, D1 does not disclose the technical feature of the method of manufacturing ZnO nanorod array characterized by crystal growth of ZnO nanoparticles coated on a substrate plate in a nutrient solution containing Zn acetates or their derivatives, and hexamethylenetetraamine of claim 1; and the manufacturing method of ZnO nanowall array characterized by crystal growth of ZnO nanoparticles coated on a substrate plate in a nutrient solution containing Zn acetates or their derivatives, and sodium citrate of claim 2, and the manufactured ZnO nanowall array of claim 7. So, the present claims 1, 2 and 7 cannot be easily derived by a person skilled in the art from D1.

4. Comparing claim 6 and D1, the ZnO nanorod array of claim 6 is substantially the same as ZnO nanorods aligned on a substrate surface of D1, though it is defined as being manufactured by the method of claim 1.

5. Therefore, claims 1-2 and 7 meet the criteria set out in Article 33(2) and (3) PCT and claims 3-5 meet the criteria set out in Article 33(2) and (3) PCT as they are dependent claims on claim 1 or 2. However, the subject-matter of claim 6 does not meet the criteria set out in Article 33(2) PCT.